

What is claimed is:

1. A method of treating a tissue defect in a human or other animal subject, comprising the steps of:

- 5           (a) culturing a living tissue in a medium to form a tissue culture;
- (b) subjecting said tissue culture to an electromagnetic field;
- (c) extracting said medium from said tissue culture; and
- (d) administering said medium to the site of said tissue defect.

10           2. A method according to Claim 1 wherein said tissue comprises endothelial cells.

             3. A method according to Claim 1 wherein said electromagnetic field stimulus is pulsed.

15           4. A method according to Claim 1, wherein said tissue defect is in bone tissue.

             5. A method according to Claim 4, for the treatment of a defect associated with osteoporosis, spinal fixation procedure, joint replacement procedure, or bone fracture.

20           6. A method of enhancing cell proliferation in a tissue culture of interest, comprising the steps of:

- (a) culturing a living tissue in a medium to form a first tissue culture;
- (b) subjecting said first tissue culture to an electromagnetic field;
- 25           (c) extracting said medium from said first tissue culture; and
- (d) administering said medium to said tissue culture of interest.

             7. A method according to Claim 6 wherein said electromagnetic field stimulus is pulsed.

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8. A method according to Claim 6 wherein said tissue comprises endothelial cells.

9. A composition for the treatment of tissue defects in a human or other animal subject, comprising a safe and effective amount of a medium  
5 produced by electromagnetic stimulation of a tissue culture.

10. A composition according to Claim 9, wherein said tissue culture comprises endothelial cells.

11. A composition according to Claim 9, additionally comprising a pharmaceutically-acceptable carrier.

10 12. A composition according to Claim 11, wherein said carrier is selected from the group consisting of saline, hyaluronic acid, cellulose ethers (such as carboxymethyl cellulose), collagen, gelatin, an osteoconductive carrier, and mixtures thereof.

15 13. A composition according to Claim 12, wherein said carrier comprises an osteoconductive carrier selected from the group consisting of bone particles, demineralized bone matrix, calcium phosphate, calcium sulfate, hydroxyapatite, polylactic acid, polyglycolic acid and mixtures thereof.

20 14. A composition according to Claim 9, additionally comprising a growth active material selected from the group consisting of growth factors, hormones, phosphonates and mixtures thereof.